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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MARTINE PENILLA & GENCARELLA, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER	
GUIDOTTI, LAURA COLE	
ART UNIT	**PAPER NUMBER**
1744	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/816,337	DE LARIOS ET AL.	
	Examiner	Art Unit	
	Laura C. Guidotti	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *21-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0205, 0805*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-20 in the reply filed on 08 May 2006 is acknowledged.

Specification

2. The disclosure is objected to because of the following informalities: Page 10, paragraph 34, Line 1, is foam "310" meant to be "410"?

Appropriate correction is required.

3. The use of the trademark DELRIN® has been noted in this application (Page 7, paragraph 26, line 4). It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 15 contain the trademark/trade name DELRIN®. Where a trademark or trade name is used in a claim as a limitation to identify or describe a

particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe acetal resin, polytrioxane, polyoxymethylene, or polyformaldehyde and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-5, 7-8, 13-14, and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al., USPN 6,167,583.

Miyashita et al. disclose the claimed invention including a brush enclosure extending over a length (34 or 35), the brush enclosure is configured to be disposed over a surface of a substrate (1), the brush enclosure having an open region that is

configured to be disposed in proximity to the substrate (unlabeled, open portion of 34 or 35; see Figure 1), the open region being capable of enabling foam from within the brush enclosure to contact a substrate, the open region extending over the length of the brush enclosure (Figure 1; see MPEP 2114 which recites "While features of an apparatus may be recited either structurally or functionally, claims directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)). Regarding claims 4 and 13, the brush enclosure has a tubular shape (in that it has a radius of curvature that is the same as the brushes, Column 5 Lines 51-53). Regarding claims 5 and 14, the brush enclosure is defined from a chemically inert material (Column 5 Lines 56-59; ceramic). Regarding claims 7 and 16, the length of the brush enclosure is configured to extend a length of a brush (Figure 1). Regarding claim 8, the enclosure is configured to enclose a brush (3 or 4), the elongated enclosure (34 or 35) having opposite ends defining a length and having an open region along the length of the enclosure (Figure 1), the open region configured to be disposed above the surface of the substrate (Figure 1) so that the brush is capable of making contact with a surface of the substrate when it is present (Figure 1). Regarding claim 17, the open region extends over the length of the elongated enclosure (Figure 1). Regarding claim 18, there is a first brush enclosure (35), a first brush partially enclosed within the first brush enclosure (4) that is configured to be disposed above a surface of a substrate (as shown in Figure 1), a first drive roller (11), and a second drive roller (also 11; Column 5 Lines 12-14), the first and second drive rollers configured to receive an edge of the

substrate to support and rotate the substrate (see Figures; Column 5 Lines 12-14). Regarding claim 19, there is a second brush enclosure (34), a second brush partially enclosed within the second brush enclosure (3), the second brush being oriented relative to the first partially enclosed brush configured to receive the substrate between the first and second brushes (as shown in Figure 1).

6. Claims 1, 7-8, and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyd et al., US 2005/0132515.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Boyd et al. disclose the claimed invention including a brush enclosure (200) extending over a length (see Figure 2A), the brush enclosure configured to be disposed over a surface of the substrate (100; see Figures), the brush enclosure having an open region (205; Figure 2C; paragraph 40) that is configured to be disposed in proximity to the substrate (see Figures), the open region being capable of enabling foam from within the brush enclosure to contact a substrate, the open region extending over the length of the brush enclosure (see Figures; see MPEP 2114 which recites "While features of an apparatus may be recited either structurally or functionally, claims directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than

function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)). Regarding claims 7 and 16, the brush enclosure is configured to extend a length of the brush (see Figures 2A-2C). Regarding claim 8, the enclosure is configured to enclose a brush (210), the elongated enclosure (205) having opposite ends defining a length and having an open region along the length of the enclosure (Figures 2A-2C), the open region configured to be disposed above the surface of the substrate (paragraph 36) so that the brush is capable of making contact with a surface of the substrate when it is present (paragraph 36). Regarding claim 17, the open region extends over the longth of the elongated enclosure (Figures 2A-2C).

7. Claims 1, 4, 7-8, 13, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 05-15857 (see also the computer generated English translation).

JP 05-15857 discloses the claimed invention including a brush enclosure (14) extending over a length (see Figure 1), the brush enclosure configured to be disposed over a surface of the substrate (12; see Figure 2), the brush enclosure having an open region (unlabeled, where brush is located, Figure 1) that is configured to be disposed in proximity to the substrate (see Figures), the open region being capable of enabling foam from within the brush enclosure to contact a substrate, the open region extending over the length of the brush enclosure (see Figures; see MPEP 2114 which recites "While features of an apparatus may be recited either structurally or functionally, claims directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)). Regarding claims 4 and 13, the enclosure has a tubular

shape (as it is cylindrically shaped as a tube, see Figures). Regarding claims 7 and 16, the length of the brush enclosure is configured to extend a length of a brush (Figure 1). Regarding claim 8, the enclosure is configured to enclose a brush (15), the elongated enclosure (14) having opposite ends defining a length and having an open region along the length of the enclosure (Figure 1), the open region configured to be disposed above the surface of the substrate (Figure 2) so that the brush is capable of making contact with a surface of the substrate when it is present (Figure 1). Regarding claim 17, the open region extends over the length of the elongated enclosure (Figure 1).

8. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hethcoat, USPN 5,048,549.

Hethcoat discloses the claimed invention including a brush enclosure (106) extending over a length (see Figures 2 and 4), the brush enclosure configured to be disposed over a surface of the substrate (circuit card; see Figure 2), the brush enclosure having an open region (unlabeled, where brush is located, Figure 2) that is configured to be disposed in proximity to the substrate (see Figure 2), the open region being capable of enabling foam from within the brush enclosure to contact a substrate, the open region extending over the length of the brush enclosure (see Figures; see MPEP 2114 which recites "While features of an apparatus may be recited either structurally or functionally, claims directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)). Regarding claim 4, the brush enclosure has a tubular shape (see Figure 2).

9. Claims 1-4, 7-10, 12-13, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin, US 2002/0112312.

Lin discloses the claimed invention including a brush enclosure (42) extending over a length (see Figures 1-2), the brush enclosure configured to be disposed over a surface of the substrate (surface 8; see Figures), the brush enclosure having an open region (unlabeled, where brush is located, see Figures) that is configured to be disposed in proximity to the substrate (see Figure 2), the open region being capable of enabling foam from within the brush enclosure to contact a substrate, the open region extending over the length of the brush enclosure (see Figures; see MPEP 2114 which recites "While features of an apparatus may be recited either structurally or functionally, claims directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)). Regarding claim 2, there is a first flange extending from the brush enclosure along the length and along a first side of an open region (portion where "44" is located, see Figures) and a second flange exttending from the brush enclosure along the length and along a second side of the open region (portion where "43" is located, see Figures). Regarding claim 3, the first and second flanges define surfaces that are configured to be substantially parallel to the surface of the substrate (as shown in Figures 2 and 4). Regarding claims 4 and 13, the brush enclosure has a tubular shape (see Figures). Regarding claims 7 and 16, the length of the brush enclosure is configured to extend a length of a brush (as shown in Figures 1-2). Regarding claim 8, the enclosure is configured to enclose a brush (41), the

elongated enclosure (42) having opposite ends defining a length and having an open region along the length of the enclosure (open region which houses the brush, see Figures), the open region configured to be disposed above the surface of the substrate (Figure 6) so that the brush is capable of making contact with a surface of the substrate when it is present (Figures). Regarding claim 9, there is a flange along the length of the elongated enclosure extending radially outward from an outer surface of the elongated encosure (either portion where "43" is located or "44" is located), the flange defining a surface that is substantially parallel to the surface of a substrate when a substrate is present (see Figure 4). Regarding claim 10, wherein a space between the surface of the flange and the surface of the susbstrate is present defines a gap (again, as shown in Figure 4), the gap capable of *enabling* production of jammed foam (see MPEP 2114). Regarding claim 12, the flange has a conduit (431, 441 or nozzles 43 or 44) "configured" to remove liquid that is a result from a collapse of jammed foam (the nozzles hare connected to a water supply or detergent that removes prior liquid from the surface; paragraph 24). Regarding claim 17, the open region extends over the length of the elongated enclosure (where brush is located, see Figures).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al., USPN 6,167,583, as applied to claims 1 and 8 respectively, in view of Ravkin, USPN 6,290,780.

Miyashita et al. disclose all elements above including that the enlongated enclosure is a chemically inert material (ceramic; Column 5 Lines 56-59), however does not include a material such as plastic, DELRIN®, polyvinylidene fluoride (PVDF), and polyethylene terepthalate (PET).

Ravkin discloses a substrate processing system including a cleaning system and further recognizes and teaches that in order to withstand the corrosive effects of the acid in the cleaning system that the components in the cleaning system must comprise of a plastic, DELRIN®, or PET (Column 3 Line 63 to Column 4 Line 2).

It would have been obvious for one of ordinary skill in the art to modify the elongated enclosure of Miyashita et al. to comprise of plastic, DELRIN®, or PET, as Ravkin teaches, as alternative materials that are additionally chemically inert and will prevent rapid corrosion within wafter substrate processing systems.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin, US 2002/0112312.

Lin discloses all elements above, however does not disclose a specific gap amount, particularly a gap of 0.1 mm to about 5 mm.

It would have been obvious for one of ordinary skill in the art to modify the gap distance of Lin so that it is in the range of 0.1 mm to about 5 mm in order to optimize the cleaning capabilities of Lin based on the intended use and desired results of the user. Furthermore, "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al., USPN 6,167,583, as applied to claim 18, in view of Krussell et al., USPN 6,594,847.

Miyashita et al. disclose all elements above, however does not disclose that the substrate cleaning system comprises a housing.

Krussel et al. teach a wafter substrate cleaning system that has a housing (400; Figures 7A-7C) that encloses the substrate cleaning system in order to contain it and to reduce environmental particulates (Column 8 Lines 11-14, 35-40).

It would have been obvious for one of ordinary skill in the art to modify the cleaning system of Miyashita et al. and further include a housing to enclose the cleaning system, as Krussel et al. teach, in order to contain the system and to prevent particulates from escaping into the environment.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2002/0185164 A1 to Tetsuka et al. teaches a cleaning treatment for a substrate wherein the cleaning is done ultrasonically and uses opposing side flanges having conduit to further supply and control cleaning liquid. Tetsuka et al. does not include an enclosure and does not employ a brush.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LCG

GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER